Technical Story Number: TS012

Technical Story Name: Retrieve Exam Result by Facility ID and Date Range

Priority: High

ClearQuest Number: DAS_CR273

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Story: As a consuming application I want to retrieve a list of available exam results by Facility ID and Date Range so that I can retrieve only those Exam Results that I need.

Revision History

Date	Version	Description	Author
03/22/2012	v0.01	Initial	Lynne Case
9/4/2012	v0.02	Architects & Analysts Review; Split off into its own Technical Story for these specific parameters, instead of using a more general Technical Story.	Carlos Hernandez
9/11/2012	v0.03	Analysts Review	Carlos Hernandez
9/14/2012	v0.04	Peer Review Changes: Added Facility ID information. Added Date Range information. Updated diagrams, Conversation, and Acceptance Criteria.	Carlos Hernandez
9/21/2012	v1.0	Technical Writer Review	David Malmstrom

Reference Documentation

1. VLER DAS ICD, v1.02

2. User Story US005.01, Retrieve Exam Result by Facility ID and Date Range

3. Functionality for Future VRS-ICDs 20120522.doc (Draft document, G. Ludgate)

4. hdr_facilities.xls file (CDS/HDR Development Team)

5. cld.xml file

Overview

This Technical Story describes the process for retrieving an exam result from the Health Data Repository (HDR) using VRS and the Clinical Data Service (CDS).

Actors

- Virtual Lifetime Electronic Record (VLER) Read Service
- Clinical Data Service (CDS) Read Wrapper
- CDS
- Consuming Application – (e.g., VBMS, CAPRI)

Preconditions

The following applications must be running:

1. VLER Read Service (VRS)

2. CDS Read Wrapper (CDSRW)

3. CDS

4. HDR

5. Consuming Application

6. Each of the above applications have network accessibility.

Detailed Flow - First Pass (see Figure 1)

1. VRS receives a request from a consuming application for a First Pass pick-list of available exam results filtered by request criteria.

2. The request criteria must specify values for the following formal parameters:

   a. VA Facility ID (a numeric identifier as minimum – see Appendix A)
   b. Date Range (see Appendix B)

3. VRS converts the request to a CDS Read Wrapper request.

4. VRS sends the CDS Read Wrapper request to the CDS Read Wrapper.

5. The CDS Read Wrapper converts this request into an appropriate CDS request.

6. The CDS Read Wrapper sends the CDS request to CDS.

7. CDS returns to the CDS Read Wrapper a list of available Exam Results meeting the specified request criteria.

8. Each item in the list received by the CDS Read Wrapper includes the following information:

    a. Patient Information (First Name, Middle Name, Last Name, Patient ID, Assigning Authority)
    b. Document ID
    c. Disability Benefits Questionnaire (DBQ) type
    d. Creation Date (Date, Time, and Time Zone)
    e. VA Facility Information (Name, ID, Assigning Authority - See Appendix A)
    f. Status of Exam Result
    g. Physician Information (First Name, Middle Name, Last Name, Physician ID, and Assigning Facility or Assigning Authority)

9. The CDS Read Wrapper converts the list to an Atom Feed response for VRS.

10. The CDS Read Wrapper returns the list as an Atom Feed to VRS.

11. VRS takes the CDS Read Wrapper Atom Feed and creates an Atom Feed response for the consuming application.

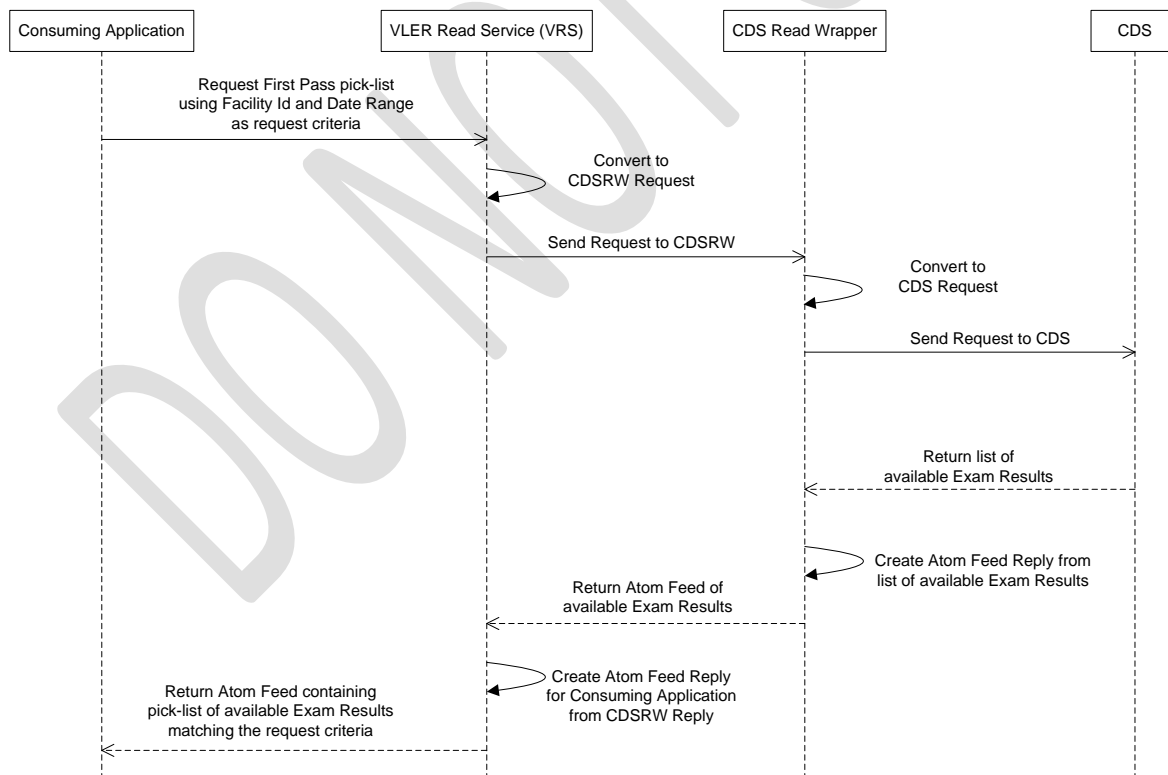12. VRS returns the Atom Feed response to the consuming application.

Figure 1: First Pass

Detailed Flow - First Pass - Post Conditions

1. The consuming application has received the First Pass pick-list of available exam results, as an Atom Feed, matching its original specified request criteria.

Alternate Flow – Second Pass (see Figure 2)

1. VRS receives a request from a consuming application for a specific Exam Result. (Note 1: request is a URI (e.g., with a Document ID to uniquely identify the target document); Note 2: multiple Sequential second pass requests are supported.)

2. VRS converts the request into a CDS Read Wrapper request.

3. VRS sends the CDS Read Wrapper request to the CDS Read Wrapper.

4. The CDS Read Wrapper converts the request to a CDS request.

5. The CDS Read Wrapper sends the request to CDS.

6. CDS returns the requested Exam Result to the CDS read Wrapper.

7. The CDS Read Wrapper returns the Exam Result to VRS.

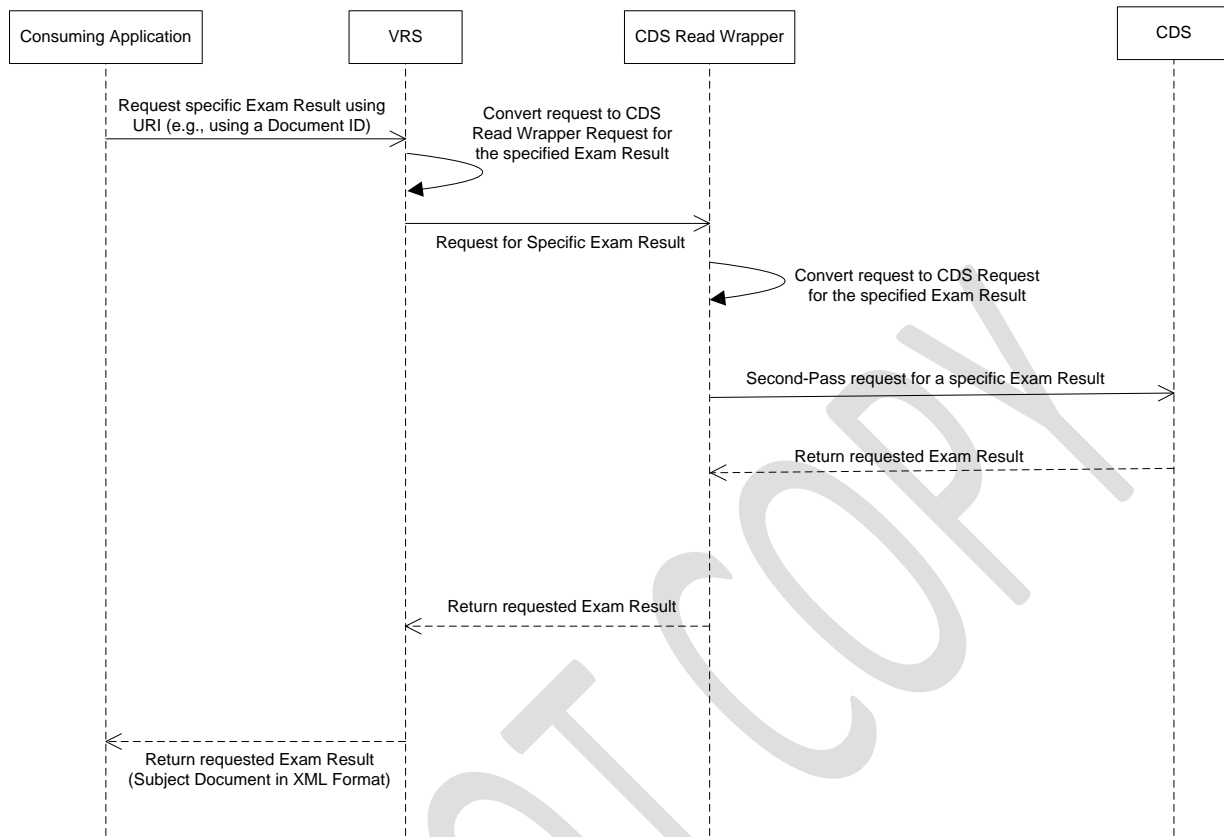8. VRS returns the Exam Result to the consuming application.

Figure 2: Second Pass

Alternate Flow - Second Pass - Post Conditions

1. The consuming application has received the requested exam result from VRS.

Detailed Listing of Acceptance Criteria (Detailed Flow - First Pass)

Requirement ID	Description
TS012.01	VRS receives a request from a consuming application for a First Pass pick-list of available exam results filtered by request criteria.
TS012.02	The request criteria will specify a value for the formal parameter, VA Facility ID, by providing a numeric identifier as a minimum (see Appendix A for more information).
TS012.03	The request criteria will specify values for the formal parameter, Date Range (see Appendix B for more information).
TS012.04	VRS converts the request to a CDS Read Wrapper request.
TS012.05	VRS sends the CDS Read Wrapper request to the CDS Read Wrapper.

TS012.06	The CDS Read Wrapper converts this request to a CDS request.
TS012.07	The CDS Read Wrapper sends the CDS request to CDS.
TS012.08	CDS returns to the CDS Read Wrapper a list of available Exam Results meeting the specified request criteria.
TS012.09	Each item in the list returned to the CDS Read Wrapper includes Patient Information (First Name, Middle Name, Last Name, Patient ID, Assigning Authority).
TS012.10	Each item in the list returned to the CDS Read Wrapper includes Document ID (in a URL to be used for 2nd Pass retrieval).
TS012.11	Each item in the list returned to the CDS Read Wrapper includes Disability Benefits Questionnaire (DBQ) Type.
TS012.12	Each item in the list returned to the CDS Read Wrapper includes Creation Date (Date, Time, and Time Zone).
TS012.13	Each item in the list returned to the CDS Read Wrapper includes VA Facility Information (Name, ID, Assigning Authority).
TS012.14	Each item in the list returned to the CDS Read Wrapper includes Status of Exam Result.
TS012.15	Each item in the list returned to the CDS Read Wrapper includes Physician Information (First Name, Middle Name, Last Name, Physician ID, and Assigning Facility or Assigning Authority).
TS012.16	The CDS Read Wrapper converts the list to an Atom Feed response for VRS.
TS012.17	The CDS Read Wrapper returns the list as an Atom Feed to VRS.
TS012.18	VRS takes the CDS Read Wrapper Atom Feed and creates an Atom Feed response for the consuming application.
TS012.19	VRS returns the Atom Feed response to the consuming application.

Detailed Listing of Acceptance Criteria (Alternate Flow - Second Pass)

Requirement ID	Description
TS012.20	VRS receives a request from a consuming application for a specific Exam Result.
TS012.21	The request is a URI which uniquely specifies the Exam Result being requested (the request may contain a Document ID, for example).
TS012.22	Sequential multiple Second Pass requests are supported.
TS012.23	VRS converts the request into a CDS Read Wrapper request.
TS012.24	VRS sends the CDS Read Wrapper request to the CDS Read Wrapper.
TS012.25	The CDS Read Wrapper converts the request to a CDS request.
TS012.26	The CDS Read Wrapper sends the request to CDS.

TS012.27	CDS returns the requested Exam Result to the CDS read Wrapper.
TS012.28	The CDS Read Wrapper returns the Exam Result to VRS.
TS012.29	VRS returns the Exam Result to the consuming application.

Appendix A – VA Facility Information Terminology

Please note the following terminology surrounding facility information:

1. When DBQ information is stored, our code (GATEWAY) gets DBQ data from the forms vendor (HARRIS) which includes NIEM compliant "common required fields", including facility information. An example of our GATEWAY code, as found in the cld.xml file, appears below:

```
- <nc:Facility>
  - <nc:FacilityIdentification>
      <nc:IdentificationID>644</nc:IdentificationID>
      <nc:IdentificationJurisdictionText>PHOENIX.MED.VA.GOV</nc:IdentificationJurisdictionText>
    </nc:FacilityIdentification>
    <nc:FacilityName>CARL T. HAYDEN VA MEDICAL CENTER</nc:FacilityName>
  </nc:Facility>
```

2. The Gateway STORE request is then transformed to the HDR schema using the CDS Write Wrapper code. Here is an example of that code:

```
<facilityIdentifier>
      <identity>516</identity>
      <name>VISN 8: VA SUNSHINE HEALTHCARE NETWORK</name>
      <assigningAuthority>BAY-PINES.MED.VA.GOV</assigningAuthority>
</facilityIdentifier>
```

IMS_ FACILITY_ ID	FACILITY_ID	VAMC_NAME	STATION_ NUMBER	VAMC_ADDRESS	CITY	VAMC_ STATE	POSTAL_ CODE	VISN_ NUMBER	RDI_ FLG
22	BAY-PINES.MED.VA.GOV	VISN 8: VA SUNSHINE HEALTHCARE NETWORK	516	10000 BAY PINES BOULEVARD	BAY PINES	FL	33708	8	N
5	PHOENIX.MED.VA.GOV	CARL T. HAYDEN VA MEDICAL CENTER	644	650 E. INDIAN SCHOOL ROAD	PHOENIX	AZ	85012	18	N

3. Finally, the CDS/HDR team has provided the hdr_facilities.xls file, listing the valid facility information. Some examples from that file include:

In summary, the various existing facility information labels as found in documentation and coding are mapped as follows:

Item description (examples)	cld.xml file label (Gateway STORE code, from Harris STORE request)	Code sent to HDR label (CDS Write Wrapper STORE code)	hdr_facilities.xls label (from CDS/HDR database team)
Numeric id (516) (644)	<nc:Facility> <nc:FacilityIdentification> <nc:IdentificationID>	<facilityIdentifier> <identity>	STATION_NUMBER
Descriptive Name (VISN 8: VA SUNSHINE HEALTHCARE NETWORK) (CARL T. HAYDEN VA MEDICAL CENTER)	<nc:Facility> <nc:FacilityName>	<facilityIdentifier> <name>	VAMC_NAME
Context/Authority (BAY-PINES.MED.VA.GOV) (PHOENIX.MED.VA.GOV)	<nc:Facility> <nc:FacilityIdentification> <nc:IdentificationJurisdictionText>	<facilityIdentifier> <assigningAuthority>	FACILITY_ID

Appendix B – Date Range

From George Ludgate, regarding the contents of the document, Functionality for Future VRS-ICDs 20120522.doc:

This doc contains the following entry defining two parameters for a date range:

| Date range on a request | The ENTRYs returned by VLER-Read-Service (VRS) in an Atom Feed must lie between two valid dates specifying the upper and lower dates of a date range.

The upper and lower date limits are implemented as optional query parameters in the request URL i.e.

&startDate=ddd&endDate=ddddd

The date range is to be interpreted as a closed date range i.e. an ENTRY is returned if the following is true for the ENTRY's update date i.e.

startDate <= ENTRY Update date <= endDate

If the lower limit is omitted from a request URL then a default of minus-infinity is assumed. If the upper limit is omitted then a default of plus-infinity is assumed.

Date format is the XML DateTime format i.e. YYYY-MM-DDTHH:MM:SS
... with time zone info as shown on
www.w3schools.com/schema/schema_dtypes_date.asp | 3 | VRS ICD
ver 3
<mark>Section xx</mark> |

Which specifies what we wanted to add as date range parameters names and the format of the date and time. There should be a comma before the second "&".